USEPA NJPDES Stormwater CSI Report – Bayonne Dry Dock

NJPDES No. NJ 022 5746 **MSGP No. Stormwater (and Sediment) NJ 016 5808**

Date of Inspection: July 13,2016

Bayonne Dry Dock **www.Bayonne Dry Dock.com**
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S u m m a r y

Based upon the results of the July 13, 2016 NJPDES Compliance Sampling Inspection (CSI) of Bayonne Dry Dock, the permittee is discharging in compliance with the requirements and limitations of permit NJ 016 5808 (SW) EDP 3/1/08 XDP 2/28/13; however, this NJPDES Permit remains in full force and effect until a renewed Permit is issued by NJDEP.
and NJ 022 5746 (sump pump discharge EDP 10/1/14 – XDP 09/30/19.. None of the samples was found in exceedance of the NJPDES Permit.

Objective

An inspection team of the U.S. Environmental Protection Agency (USEPA) conducted a NJPDES 24-Hour CSI at the Bayonne Dry Dock, NJPDES Permit No. NJ 016 5808 on July 13, 2016. The purpose of the inspection was to determine whether the permittee is discharging in compliance with the requirements and limitations of its NJPDES permit(s). The permit was administratively renewed with an effective date of 10/01/2011 and it expires 09/30/2016. The NJDEP is currently revising the NJPDES Permit and requested sampling results.

Facility History and Background

The NJDEp and BDD entered into an Administrative consent Order (ACO) to address numerous effluent violations – mainly metals, at outfall 001(A??). The ACO was executed 5/28/15.

Wastewater Treatment Plant Description

General treatment processes are: pH control, primary settling, activated sludge treatment, secondary settling, gravity thickening, and de-watering. Final effluent from Bayonne Dry Dock discharges into the adjacent Upper New York Harbor through (outfall) 001A. An aerial image is included as Figure #1 at the end of the narrative report on page 9. A simplified WWTP flow schematic is attached as Figure #2.

The Reconnaissance Inspection

On ___ EPA representatives conducted a Recon of the facility. DMRs were reviewed from ___ - ___.

The Compliance Sampling Inspection (CSI)

The EPA inspectors checked into the Guard Gate/ Security Office, presented their EPA Enforcement credentials, and obtained an escort, required to enter the facility property and conduct an inspection.

During the CSI, 24-hour composite, grab-composite and grab samples were collected following the requirements of the permit. The required monitoring is described in their current permit, although the sample type (grab or 24-hour composite) is not prescribed as is typical of NJPDES permits due to the instructions in the various footnotes.

The main WWTP effluent sampling location (DSN 001A) is just before discharge to the Upper New York Harbor, however, due to dangerous safety conditions with collecting samples from the pipe discharging into the Harbor, samples were collected alongside with the contractor from the tap provided just prior to discharge (approximately ___ feet from end of pipe). The nature of this discharge is a batch process and discharges episodically. EPA installed an automated composite sampler at the permitted effluent sampling location, collecting sample aliquots every 5 minutes for the period of batch discharge estimated for the 24-hour period. The EPA composite sampler location and set-up is depicted in photos #1 and #2 below.

Photo #1: EPA's Automated (ISCO) Composite Sampler Monitoring DSN 001A

Photo #2: Close-Up of Automated Composite Sampler

Grab samples were collected for temperature, pH, zinc, copper, cyanides and total phenolics from the tap provided (shown in photo #3 below). A problem occurred with the pH meter and a result could not be determined. A pH indicating paper strip was used instead and showed the effluent was close to neutral.

Photo #3: Tap (Pipe) for Grab Samples Collection

Some of the effluent parameters have net limits, thus have additional raw water sampling and monitoring requirements. This is necessary to assess the pass-through of ambient levels of the

parameters. Samples used for determination of net-based permit limits were collected as grab-composites from the 'forebay', a protected access point for collecting river samples. Parameters for which net limitations are permitted are: copper, zinc, cyanide (total and free), and total phenolics. In addition, mercury was sampled due to priority pollutant monitoring requirements.

Three additional monitoring locations, DSN 002A and DSN 003A, and 004A consist of stormwater and covered in a separate Stormwater Permit (NJ 016 5808) permit, will be sampled for permit requirements of temperature and total residual chlorine (TRC) when conditions permit. The permit requires flow estimates of these discharges, and will be obtained from facility representatives.

During the EPA sampling, when the chlorine residual result for DSN 011 resulted in 0.10 mg/L, equal to the action level listed on the Permit, the facility representatives advised EPA that this level had since been raised to 0.24 mg/L, and subsequently provided the record of this modification.

Zinc and copper limits have been increased to 300 ug/l during the time that the ACO is in effect.

During the inspection the bleach plant was operational, however, samples were not collected from this internal monitoring point DSN 08A. Most of the parameters are dioxins and furans which EPA's Edison Laboratory does not analyze.

DSN 009 has stormwater monitoring requirements. Since there was no rain event during the EPA sampling, this outfall was not sampled. The results of all samples collected are summarized in the Findings section below.

Split samples were offered to the facility representatives at the start of the CSI. Bayonne Dry Dock representatives requested splits of the composite sample, but collected their own grab and grab-composite samples alongside EPA. The EPA samples were preserved following the requirements of 40 CFR §136 and transported on ice to the EPA Regional Laboratory in Edison, New Jersey for analysis. Appropriate chain-of-custody procedures were maintained throughout the survey and analyses.

Findings

The effluent being discharged appears clear, as shown in photos #4 and #5 below.

Photo #4: Brown Effluent from Diffuser

Photo #5: Brown Effluent from Diffuser

Photographs were taken of the samples after being preserved. The brown color can be seen clearly in these transluscent plastic containers (below in photo #6).

Photo #6: Preserved Samples Ready for Check-in to the Laboratory at EPA in Edison, NJ

The results of the July 13, 2016 24-Hour NJPDES CSI are summarized below. Table #1 presents a summary of the samples collected from the main outfall, DSN 001A.

Table #2 presents the results of the forebay (intake) sampling. Since all of the intake samples resulted in undetected, the net value is reported as the effluent concentration multiplied by the flow for that day. Table #3 presents the monitoring results of DSN 011 and 012.

The permittee uses a combination of flow monitoring devices to calculate the effluent flow rate for DMR reporting. The total flow for the sampling period was provided by the permittee to be used for loadings as follows: 17.23 MGD for the 24-hour composite samples which started at 1139 hrs, on July 13, and 17.43 MGD for the grab-composite samples which ended at 0800 hrs. on July 13. Averaging these two values results in an average flow of 17.33 MGD.

In addition to this sampling effort, an evaluation of the quality and reliability of the self-monitoring data and plant operations, including a facility tour was conducted. A Reconnaisance inspection … Outstanding actions are two additional sampoing inspections. One for SW and one for sediment using SCUBA.

Table #1: USEPA Compliance Sampling Inspection for Bayonne Dry Dock – July 13, 2016

Parameter	Units	Permit Limitation	EPA Result
Flow (calc.)	MGD	m.o. (Daily Avg; Daily Max	
pH Eff	S.U.	5.0 – 9.0	
Temperature, Eff	^{o}C	m.o. Daily Max	
Total Residual Chlorine	mg/L	Not Limited (for preservation)	
TSS, Eff	lbs/day	Daily Avg = 34,113 Daily Max = 63,349	
BOD_5, Eff	lbs/day	Daily Avg. = 23,459 Daily Max = 45,096	
Cyanide, Total (Eff)	lbs/day	m.o. Daily Max	
Cyanide, Total (Net) calc.	lbs/day	m.o. Daily Max	
Cyanide, Free (Eff)	lbs/day	m.o.	
Cyanide, Free (Net) calc.	lbs/day	Daily Max = 15.5	
Ammonia as NH_3	lbs/day	m.o. Daily Avg & Daily Max	
TKN	lbs/day	Daily Avg / Daily Max	
Mercury, Total (Eff)	ug/L	*Not limited*	
Copper (Eff)	lbs/day	m.o.	
Copper (Net) calc.	lbs/day	Compliance Limit = 3.4 Calculated Limit = 2.2	
Zinc (Eff)	lbs/day	m.o.	
Zinc (Net) calc.	lbs/day	Daily Max = 20.9	
Nickel	lbs/day	m.o. Daily Max	
Aluminum	lbs/day	m.o. Axn Level = 627	
Iron	lbs/day	m.o. Axn Level = 276	
Molybdenum	lbs/day	m.o. Daily Max	
Titanium	lbs/day	m.o. Daily Max	
Phenolics, Total (Eff)	lbs/day	m.o.	
Phenolics, Total (Net) calc.	lbs/day	Daily Avg = 3.6	
Sulfate	lbs/day	Type II Axn Level = 200,000	
	ug/l	m.o.	
Methanol	lbs/day	m.o.	

m.o = monitor only U = analyte was undetected at or near the Reporting Limit (RL)

Table #2: Intake Sample Concentrations for Determining Net Results

Parameter	Units	Limitation	EPA Sampling Result
Mercury, Total (INF)	ug/L	m.o.	< 0.05 U
Copper (INF)	ug/L	m.o	< 10 U
Zinc (INF)	ug/L	m.o.	< 20 U
CN- Free	ug/L	m.o	< 10 U
CN- Total (INF)	ug/L	m.o	< 10 U
Phenolics, Total	ug/L	m.o.	< 10 U

m.o. = monitor only U = analyte was undetected at or near the Reporting Limit (RL)

Table #3: Monitoring Results of DSN 011 and 012

Monitoring Requirement	Units	DSN 011	DSN 012
Temperature* (1/wk) Daily Max = 110	^{o}F	37 ^{o}C = 98.6	32 ^{o}C = 89.6
Flow, estimate (m.o.)*	MGD	*	*
Chlorine, Total Residual (2/month) Limitation (action level)	mg/L	0.24	0.35
Chlorine, Total Residual EPA Sampling Result	mg/L	0.10	0.24
Time of Sampling	Hours	1233	1224
Compliance Determination	Y/N	Y	Y

m.o. = monitor only

Data Usability Evaluation – There are no limitations on the quality of the sampling results. Refer to the attached Laboratory Report.

Conclusions and Recommendations

Based upon the results of the July 13, 2016 NJPDES Compliance Sampling Inspection (CSI) of the Bayonne Dry Dock facility, the permittee is discharging in compliance with the requirements and limitations of NJPDES Permit No. NJ 022 5746. Continued compliance is requested.

Attachments
Figure #1: Aerial Image from Google®
Figure #2: Simplified Schematic Showing Sampling Points/Discharge Points from O/M Manual
Simplified WWTP Schematic (from O/M Manual)
Line Drawing for Gravure …?
Attachment #1:
Attachment #2: Chains-of-Custody for Sample Collection (2 pp)
Attachment #3: EPA Analytical Laboratory Report (6 pp)
Attachment #4: EPA Form #3560 (4 pp)

Figure #1: Aerial Photograph of Bayonne Dry Dock WWTP